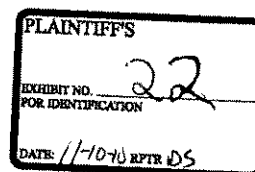




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## Summary notes – CONFIDENTIAL –

<b>Invited:</b>	<b>Present:</b> Howard Stott USDM Pyle Steve USGR Michel Albrecht CHBS Hofer Urs CHBS Reynolds Jeremy CHBS Miller Brett CHBS Spinney Mark GBJH Vail Gordon USGR Johnson Mike USGR Palmer Eric USVB Longstaff Adrian GBJH Dallimore Jon GBJH Moss Michael USGR Cully Scott USDM Beckett Tom USGR Bachiega Andre BRSP Manley Brian USRE Drost Dirk USGR Stypa Marian USGR Sherriff Matthew AUSY  <b>Partial participation:</b> Simmons Dana USGR Kaundun Deepak GBJH Battles Bruce USSL Franssen Aaron USPE Moses Adrian USDM Beaupre Barry USDM Moseley Carroll USGR Tingle Chris USDM Abell Craig USDM Nichols Craig USDM Bruns Dain USDM Thomas Dave USDM Krumm Jeffrey USDM Schirmacher Kathrin USDM Leetch Mike USDM Steiner Pat USDM Jain Rakesh USVB Wichert Rex USGR Lins Ryan USDM Payne Scott USFS Mroczkiewicz Steve USDM Foresman Chuck USGR Eiser David CHBS Taylor Shane USDM	<b>Copy:</b> Alan Dowling, Research Chemistry Bill Whittingham, Research Chemistry Roger Salmon, Research Chemistry Nigel Willetts, Research Chemistry Mike Turnbull, Research Chemistry Clare Elliott, Research Chemistry Steve Smith, Chemistry Group Leader Jutta Boehmer, Chem. Group Leader Chris Mathews, Chem. Group Leader Matt Cordingley, Project TL WCR Claudio Screpanti, Project TL WCR Gavin Hall, Project TL WCR Kay Fullick, Project TL WCR Deepak Kaundun, Project TL WCR Anne Rees, Discovery TL David Adams, Chemistry Design Nathan Kidley, Chemistry Design Eric Clarke, Chemistry Design Steven Ward, IP Section Head Catherine Piper, Formulation Res. Kate Sharples, Bioscience Dave Pearson, Environmental Safety Pratibha Mistry, Human Safety Ruediger Kotzian, Global HER Tech Gael Le Goupil, Global HER Tech Derek Cornes, Global HER Dev Dave Hughes, MOA Group Lead Deborah Keith, CPR Portfolio Lead Glynn Mitchell, PST Leader Andrew Plant, Head Res. Chemistry Josef Amrein, Portfolio Coordination Martin Kissling, Portfolio Planner David Youle, Head of B&L Klaus Gehmann, Head Prod. Biology
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<b>Location:</b>	Rend Lake College Ina, Illinois	<b>Date:</b>	June 26th, 2009
		<b>Duration:</b>	12:00 – 13:00 (CST)
<b>Minutes:</b>	Ian Zelaya	<b>No. pages:</b>	1/6
<b>Concerning:</b>	Summary notes: US Herbicides Field Visit - Stage 1, June 22-26 2009		

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H-2006-022 (Low-rate PSII)

Protocol: [REDACTED] (Stage 1.2; Late Lead Finding)

Title: Evaluation of dicot and grass weed control and crop tolerance of new chemistry compounds in CORN - PRE- and POST-EM in US

Objectives: (1) Estimate the potency and overall efficacy on key target weed species of [REDACTED] (2) Compare the level of maize selectivity of [REDACTED] (3) Evaluate the synergy of [REDACTED] and [REDACTED] in reference to the atrazine and [REDACTED]

Distribution: Schirmacher (IL); Cully (IL); Minton (TX) (trials visited)

**Summary:**

- [REDACTED] has similar activity to atrazine POST but was less active PRE
- [REDACTED] was clearly more active compared to [REDACTED] and atrazine; the level of increased activity vs. these standards was difficult to ascertain as [REDACTED] was tested at a single rate (no rate response)
- Consistent with glasshouse data, [REDACTED] had better grass spectrum compared to atrazine [REDACTED] and similar broad-leaf spectrum (except for [REDACTED] which was a gap)
- At the 500 g ai/ha rate PRE, atrazine had slightly better activity compared to [REDACTED]
- Both [REDACTED] and [REDACTED] had limited maize selectivity POST (PRE was acceptable)
- In mixture with [REDACTED] (500 g ai/ha + 100 g ai/ha PRE; 500 g ai/ha + 75 g ai/ha POST), both atrazine and [REDACTED] had excellent activity and there was evidence of synergism. In POST, the [REDACTED] with [REDACTED] appeared more active compared to the atrazine and [REDACTED] however PRE, the atrazine and [REDACTED] looked more active

Protocol: [REDACTED] (Stage 1.2; Late Lead Finding)

Title: Evaluation of dicot weed control and crop tolerance of new chemistry compounds in CORN - PRE- and POST-EM in US

Objectives: (1) Evaluate crop tolerance and overall efficacy on key target weed species of [REDACTED] (2) Compare the level of maize selectivity of [REDACTED] and (3) Compare the potency, efficacy and crop tolerance of [REDACTED]

Distribution: Schirmacher (IL); Cully (IL); Holloway (TN) (trials visited)

**Summary:**

- Progress made from the leads tested last year
- Overall, [REDACTED] compounds were more active EPOST than PRE
- Compared to [REDACTED] compounds still looked less active
- [REDACTED] was safe to maize at 30 g and 60 g ai/ha (but not at 120 g ai/ha)
- [REDACTED] was the most active of the [REDACTED] but also the less selective to maize
- [REDACTED] was safe EPOST, but less active than [REDACTED]
- Aminocyclopyrachlor was safe to maize at the rates tested (60 g PRE and 30 g ePOST); the activity ePOST was better compared to [REDACTED]
- The Dow lead [REDACTED] was active, particularly EPOST, but was not selective to maize
- Recommendations: (1) focus priority on consistent EPOST activity, (2) consider further

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adjuvant work beyond recommendations with NIS, and (3) focus activity on glyphosate-resistant weed species, [REDACTED]  
[REDACTED] need to be different

- It is too early to make clear decisions; data needs to be fully analyzed

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Protocols: [REDACTED] and [REDACTED] (Stage 1.2; Late Lead Finding)

Title: Evaluation of crop tolerance and broadleaf weed control in glyphosate-tolerant SOYBEANS - PRE-EM [REDACTED] and EPOST [REDACTED] in US

Objectives: [REDACTED] (1) Evaluate soybean tolerance (level and time pattern of injury development), (2) Evaluate the activity on the key dicot weeds, and (3) Compare performance to [REDACTED] [REDACTED] (1) Evaluate soybean tolerance (level and time pattern of injury development), (2) Evaluate the activity on the key dicot weeds, (3) Determine if the new research compounds have a robust selectivity under field conditions and offer good broadleaf weed control, and (4) Compare [REDACTED] post-emergence to the [REDACTED] and [REDACTED]

Distribution: Nichols (MO); Moses (IA); Cully (IL); Black (AR) (trials visited)

**Summary:**

- Overall, both [REDACTED] and [REDACTED] were more active EPOST than PRE
- EPOST, [REDACTED] was injurious to soybeans at the rates tested; [REDACTED] was safer and was injurious only at the top rate of 125 g ai/ha
- Activity on broad-leaf weeds was generally worse than [REDACTED] (PRE), [REDACTED] (EPOST) and [REDACTED] (fomesafen+glyphosate) (EPOST)
- The BOND compound [REDACTED] was not selective to soybeans; the new lead, [REDACTED] had better selectivity compared to [REDACTED] but still injurious at the rates tested (250 g ai/ha and 500 g ai/ha)
- Recommendations: (1) focus priority on consistent EPOST activity and promising soybean selectivity, (2) consider further adjuvant work (similar to maize), and (3) focus activity on glyphosate-resistant weed species, [REDACTED]

**DASH (Low-rate chloroacetanilide)**

Protocol: [REDACTED] (Stage 1.4; Optimization)

Title: Evaluation of grass and dicot weed control, crop selectivity and safener response of lead compounds in CORN - PRE-EM in the US

Objectives: (1) Compare the activity of [REDACTED] on key target weed species, (2) Assess whether the addition of the safener [REDACTED] reduces the level of observed corn phytotoxicity on the lead [REDACTED] and (3) Evaluate the relative weed efficacy and crop selectivity of the lead [REDACTED] to the commercial standards [REDACTED]

Distribution: Bruns (OH); Thomas (IL); Nichols (MO); Moses (IA); Lengkeek (MI); Mroczkiewicz (IN); Hitchner (Delmarva); Holloway (TN); Sanders (MS); Minton (TX) (trials visited)

**Summary:**

- Overall good conditions for PRE activity (e.g. precipitation and performance of standards)
- PRE activity correlated well with (1) activation rain, (2) weed infestation and (3) soil organic matter
- In high organic matter soils, 800 g ai/ha required (maybe more) for consistent response. In lower organic soils, a minimum of 400 g ai/ha was required, but 600 g ai/ha is preferred

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- Approximately 600 g ai/ha was comparable to S-metolachlor at the 1x rate for the soil type
- In some conditions of high SETFA infestation (Nichols, MO), 800 g ai/ha had only partial suppression of this target species
- Performance under dry soil conditions was not confirmed; it is perceived that the [REDACTED] compounds perform similar to [REDACTED] for moisture required for activation. Recommendation: follow this under controlled conditions
- It is important to evaluate consistency of performance; last year 600 g ai/ha was consistent, but this year we may need 800 g ai/ha
- [REDACTED] both 1x less active compared to [REDACTED]
- No maize injury observed with any of the treatments and hence the effect of benoxacor could not be assessed

Protocol: [REDACTED] (Stage 1.4; Optimization)

**Title:** Evaluation of grass and dicot weed control, crop selectivity and safener response of lead compounds in combination with HPPDs in CORN - PRE-EM in the US

**Objectives:** (1) Compare the overall weed efficacy of two lead [REDACTED] in mixtures with [REDACTED] and [REDACTED] to mixtures with [REDACTED] and [REDACTED] (2) Compare the level of crop tolerance of [REDACTED] (3) Compare the overall weed efficacy and crop selectivity of [REDACTED]

**Distribution:** Lengkeek (MI); Mroczkiewicz (IN); Nichols (MO); Hitchner (Delmarva); Lins (MN); Cully (IL); Holloway (TN); Minton (TX) (trials visited)

**Summary:**

- No crop injury reported; most treatment included benoxacor
- Good activation rain this year thus overall good performance of PRE treatments
- In combination with mesotrione, both [REDACTED] required 800 g ai/ha for broad-spectrum weed control comparable to [REDACTED] (particularly grasses). [REDACTED] required a lower [REDACTED] rate; in some cases 300 g ai/ha was required. Under high SETFA populations (Nichols, MO) none of the [REDACTED] were as good as the [REDACTED]
- Performance under dry weather was not confirmed. Recommendation: follow this under controlled conditions
- In low organic matter soils, excellent performance of most treatments (S Cully)
- The standards [REDACTED]

Protocol: [REDACTED] (Stage 1.3; Optimization)

**Title:** Evaluation of grass and dicot weed control, crop tolerance and safener response of new chemistry compounds in CORN - PRE-EM in the US

**Objectives:** (1) Estimate potency and overall efficacy on key grass weed species of [REDACTED] (2) Evaluate the response of [REDACTED] to the safener [REDACTED] at a H:S-ratio of 5:1, and (3) Compare the level of maize tolerance of [REDACTED]

**Distribution:** Bruns (OH); Thomas (IL); Krumm (WI); Mroczkiewicz (IN); Hitchner (Delmarva); Moses (IA); Cully (IL); Minton (TX); Holloway (TN); Sanders (MS) (trials visited)

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**Summary:**

- Good activation rain for most trial sites visited
- Overall [REDACTED] had similar performance to [REDACTED] and both compounds had better and more consistent performance compared to [REDACTED]
- Similar to [REDACTED] 800 g ai/ha was required for consistent PRE performance; a lower rate (600 g ai/ha) may be enough in low organic matter soils (S Cully)
- Performance under dry weather was not confirmed. Recommendation: follow this under controlled conditions.
- Good activation rain this year thus better performance
- Better performance of compounds in low organic matter soils (C Cully) versus higher organic matter soils (C Moses)
- [REDACTED] safener was not assessed given the limited maize injury observed

**CREST (Safener)**

**Protocol:** [REDACTED] (Stage 1.3; Optimization)

**Title:** Evaluate the effect of safeners on [REDACTED] or POST-emergence weed control and crop tolerance in V3-V5 stage GT corn

**Objectives:** (1) evaluate effect of four safeners - [REDACTED] on tolerance of a range of different corn varieties, (2) evaluate the efficacy of [REDACTED] in corn - alone and in combination with safeners, (3) define H:S-ratio needed for acceptable corn selectivity and (4) evaluate effect safener on grass activity

**Distribution:** Moses (Ames, IA); Moses (Ogden, IA); Mroczkiewicz (IN); Cully (IL) (trials visited)

**Summary:**

- The [REDACTED] resulted in unacceptable maize injury (~15-20% at 1200 g ai/ha and ~30-40% at 2400 g ai/ha)
- Good [REDACTED] safening observed at 10 g plus 1200 g ai/ha of [REDACTED] (1:7 ratio of [REDACTED] and 20 g plus 2400 g of [REDACTED])
- Treatment #2 (20 g of [REDACTED] plus 2400 g of [REDACTED]) was similar or safer compared to [REDACTED] GT at 2200 g ai/ha
- [REDACTED] was equally effective compared to [REDACTED]
- [REDACTED] was less effective than both [REDACTED] at 75 g plus 1200 g ai/ha of [REDACTED] safening was marginal
- [REDACTED] was the less effective of all safeners tested. Maize injury was unacceptable when 60 g or 120 g of [REDACTED] were mixed with 1200 g and 2400 g ai/ha of [REDACTED] respectively
- The [REDACTED] was equally or less injurious to maize compared to [REDACTED] (depending on location), but both formulation were safer than the [REDACTED]. In addition, mixtures of [REDACTED] did not result in acceptable crop safety

**Protocol:** [REDACTED] (Stage 1.3; Optimization)

**Title:** POST emergence control of tough weeds: evaluation of new [REDACTED] as POST emergence herbicide US

**Objectives:** (1) compare the efficacy of [REDACTED] versus the standard [REDACTED] (2) compare the spectrum and rate response of [REDACTED] versus [REDACTED] (3) evaluate the potential use of [REDACTED] in pre-plant burndown and plant-back (crop rotation) scenarios

**Distribution:** Bruns (OH); Thomas (IL); Krumm (WI); Mroczkiewicz (IN); Hitchner (Delmarva); Moses (IA); Cully (IL); Minton (TX); Holloway (TN); Sanders (MS) (trials visited)

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**Summary:**

- [REDACTED] no [REDACTED] injury observed; good plant-back fit (limited crop rotation limitations)
- [REDACTED] no [REDACTED] injury observed; good pre-plant burndown potential
- [REDACTED] generally good efficacy observed at 600 g ai/ha of [REDACTED] however, the rate-response was flat (no increase in efficacy observed at rates of 750 g, 900 g and 1200 g ai/ha compared to 600 g ai/ha of [REDACTED])
- Good activity of [REDACTED] on [REDACTED] resistant common waterhemp (Southern Illinois University site)
- In mixture with [REDACTED] (420 g ae/ha), 750 g ai/ha of [REDACTED] gave good efficacy. There was an indication at lower rates of [REDACTED] the mixture may be antagonistic (A Moses)
- [REDACTED] was consistently weak on common lambsquarters (*Chenopodium*)
- Recommendations: (1) comparison of [REDACTED] should be made to both [REDACTED] (burn-down and in-crop HTC) and [REDACTED] resistant weeds) (2) important to demonstrate the advantage versus [REDACTED] preliminary assessment suggest that it may be weaker vs. [REDACTED] (3) application volume (300 L/ha) may be too high, particularly for maximum [REDACTED] efficacy; consider lower application volumes, (4) in-crop use needs to control [REDACTED] susceptible and [REDACTED] resistant biotypes of common waterhemp, horseweed and ragweeds
- A perfect molecule is not needed. Very good results observed thus far plus Chuck likes it!

Adjourned at 13:10 (CST) on June 26th, 2009

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